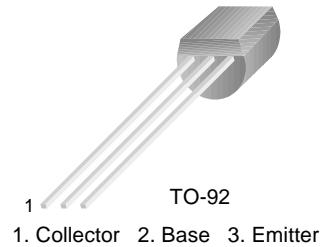




## BC546/547/548/549/550

### Switching and Applications

- High Voltage: BC546,  $V_{CEO}=65V$
- Low Noise: BC549, BC550
- Complement to BC556 ... BC560



### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	$V_{CBO}$ : BC546	80	V
	$V_{CBO}$ : BC547/550	50	V
	$V_{CBO}$ : BC548/549	30	V
$V_{CEO}$	$V_{CEO}$ : BC546	65	V
	$V_{CEO}$ : BC547/550	45	V
	$V_{CEO}$ : BC548/549	30	V
$V_{EBO}$	$V_{EBO}$ : BC546/547	6	V
	$V_{EBO}$ : BC548/549/550	5	V
$I_C$	Collector Current (DC)	100	mA
$P_C$	Collector Power Dissipation	500	mW
$T_J$	Junction Temperature	150	°C
$T_{STG}$	Storage Temperature	-65 ~ 150	°C

#### Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=30V, I_E=0$			15	nA
$h_{FE}$	DC Current Gain	$V_{CE}=5V, I_C=2mA$	110		800	
$V_{CE}$ (sat)	Collector-Emitter Saturation Voltage	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5mA$		90 200	250 600	mV mV
$V_{BE}$ (sat)	Base-Emitter Saturation Voltage	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5mA$		700 900		mV mV
$V_{BE}$ (on)	Base-Emitter On Voltage	$V_{CE}=5V, I_C=2mA$ $V_{CE}=5V, I_C=10mA$	580	660	700 720	mV mV
$f_T$	Current Gain Bandwidth Product	$V_{CE}=5V, I_C=10mA, f=100MHz$		300		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		3.5	6	pF
$C_{ib}$	Input Capacitance	$V_{EB}=0.5V, I_C=0, f=1MHz$		9		pF
NF	Noise Figure : BC546/547/548	$V_{CE}=5V, I_C=200\mu A$		2	10	dB
	: BC549/550	$f=1KHz, R_G=2K\Omega$		1.2	4	dB
	: BC549	$V_{CE}=5V, I_C=200\mu A$		1.4	4	dB
	: BC550	$R_G=2K\Omega, f=30\sim15000MHz$		1.4	3	dB

### $h_{FE}$ Classification

Classification	A	B	C
$h_{FE}$	110 ~ 220	200 ~ 450	420 ~ 800

## Typical Characteristics

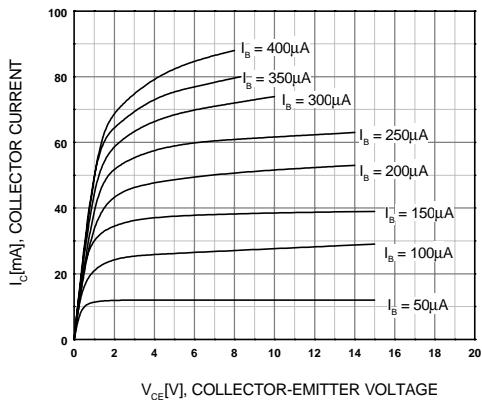


Figure 1. Static Characteristic

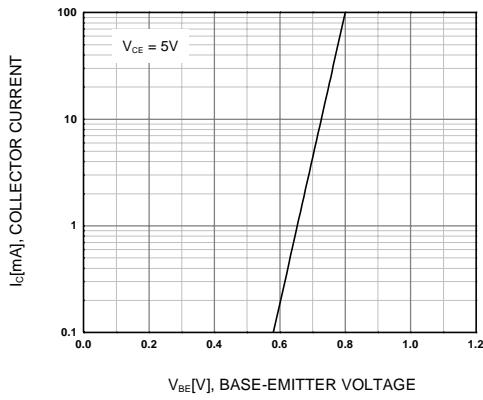


Figure 2. Transfer Characteristic

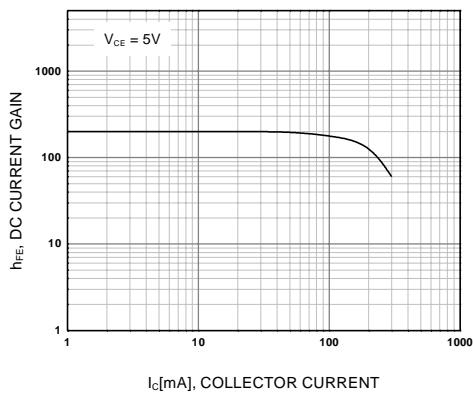


Figure 3. DC current Gain

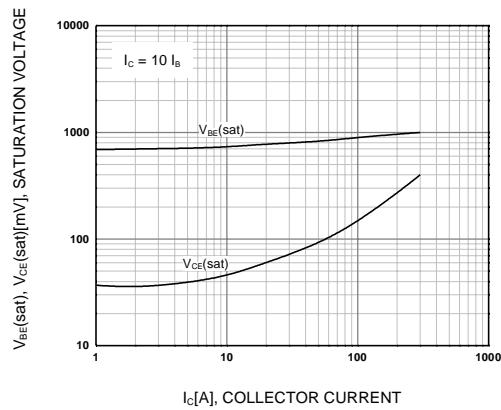


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

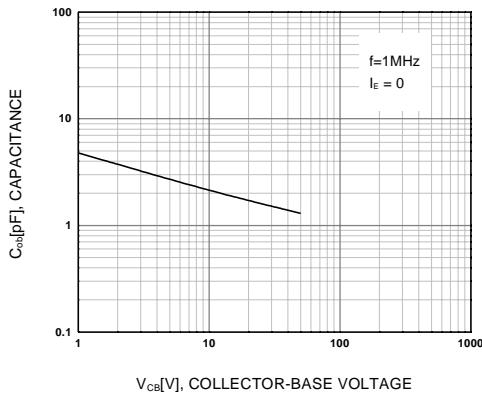


Figure 5. Output Capacitance

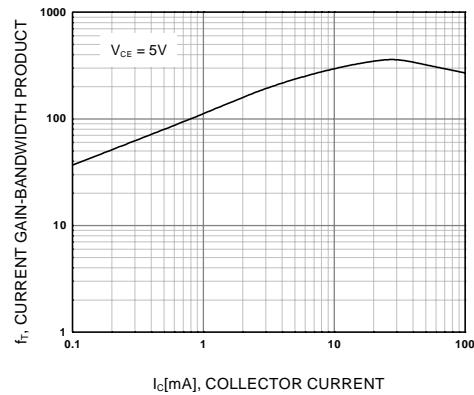
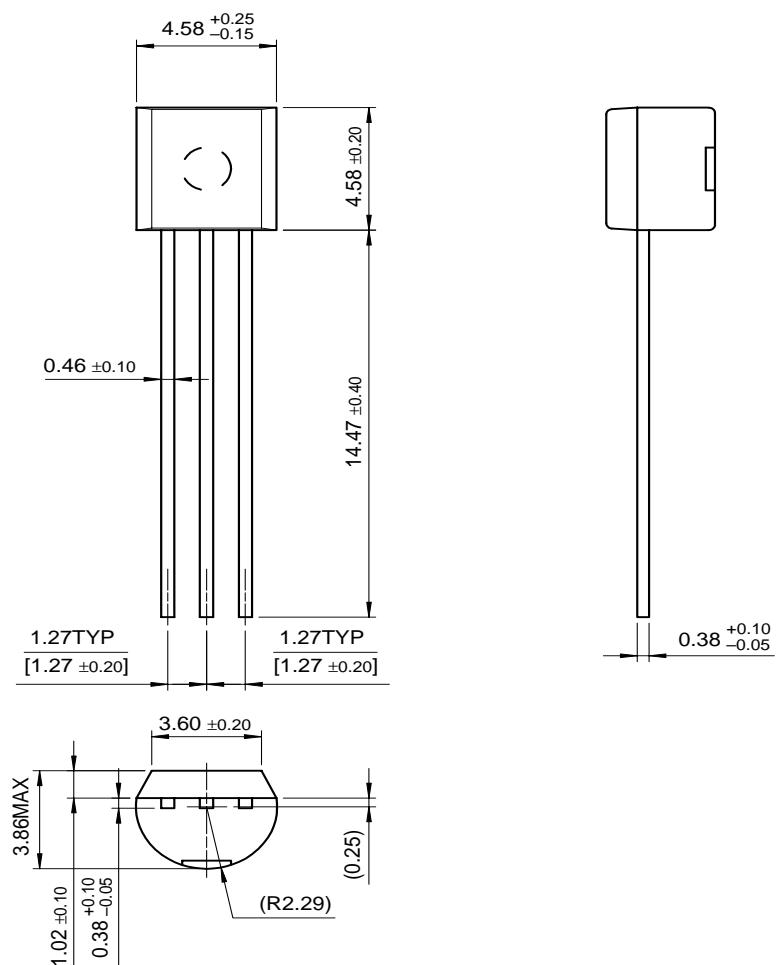


Figure 6. Current Gain Bandwidth Product

## Package Dimensions

TO-92



Dimensions in Millimeters

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DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E <sup>2</sup> CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I <sup>2</sup> C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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## PRODUCT STATUS DEFINITIONS

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